

## IN THE SPECIFICATION

Please amend Page 1, Line 10 as follows;

Compositions and weatherable multilayer articles comprising resorcinol arylate chain members are known. See Published Patent Application Nos. EP 1124878 and WO 00/69945, pages 27-30, describes multilayered articles in the following manner: “The ~~multiplayer~~ multilayer articles typically have outstanding initial gloss, improved initial color, weatherability, impact strength, and resistance to organic solvents encountered in their final applications.” Page 27, paragraph 2, states: “The material of the substrate layer in the articles of this invention may be at least one thermoplastic polymer, whether addition or condensation prepared. Condensation polymers include, but are not limited to, polycarbonates, particularly aromatic polycarbonates, polyphenylene ethers, polyetherimides, polyesters \*\*\*\*.” The second paragraph on page 29, states: “Multilayer articles encompassed by the invention also include those comprising at least one glass layer. Typically any glass layer is a substrate layer, although multilayer articles comprising a thermally stable polymer coating layer interposed between a glass layer and a substrate layer are also contemplated. Depending upon the nature of the coating and glass layers, at least one adhesive interlayer may be beneficially employed between any glass layer and any thermally stable polymer coating layer. The adhesive interlayer may be transparent, opaque or translucent. For many applications it is preferred that the interlayer be optically transparent in nature and generally have a transmission of greater than about 60% and a haze value less than about 3% with no objectionable color.”

Please amend Page 3, Line 12 as follows;

FIG. 8 is a Wavescan for Automotive ~~Horizontal~~ Horizontal Panels.

Please amend Page 3, Line 21 as follows;

As illustrated in FIG. 1(A), a thermoformable laminate 3 comprises a ~~layer of an~~ arylate polyester resin-polymer layer 5 adhered to a ~~layer of a compatible resin~~ layer 7. In an embodiment, the arylate polyester resin is clear and comprises a resorcinol arylate polyester chain members. The polyester arylate imparts desirable properties of weatherability, and UV resistance. The arylate polyester chain members desirable comprise at least one diphenol residue in combination with at least one dicarboxylic acid residue. ~~An adjacent compatible resin~~ layer 7 of a compatible resin comprises a resin that is selected to adhere to the arylate polyester polymer layer 5. Typical compatible resin materials comprise polycarbonate, polyester, polyetherimide, polyamide, polyacrylonitrile containing resin such as an ABS resin, acrylic-styrene-acrylonitrile (ASA), acrylonitrile ethylene-polypropylene diamine modified styrene (AES), phenylene sulfide, polymethyl methacrylate (PMMA), copolyester carbonates, poly(alkylene dicarboxylates). Preferable the compatible resin ~~layer 3~~ layer 7 comprises a polyester or polycarbonate, preferably an aromatic polycarbonate, in an amount to enhance the adherence of the compatible resin layer-layer 7 to the arylate polyester ~~outer-layer~~ 5. The thermoformable laminate 3 may be constructed by various processing techniques such as extrusion, co-extrusion, casting, coating, vacuum deposition, lamination, molding, and combinations thereof. The thermoformable laminate preferably has a thickness from about 15 to about 60 mils, more preferable from about 30 to about 50 mils.

Please amend Page 4, Line 25 as follows;

FIG. 2 illustrates a thermoforming apparatus. The thermoforming apparatus 9 included radiant heaters 11 and the mold body or mold form 13 which include a vacuum assist (not shown). Typically, the laminate 3, in the form of a film, is formed with the assistance of a vacuum with the vacuum former and surrounding metal framework preheated to minimize chill of the ~~film laminate~~. The ~~film laminate~~ 3 is placed on a vacuum box or mold form 13 which may have openings connected to a source of a vacuum.

Please amend Page 4, Line 27 to Page 5, Line 15 as follows;

Preferable, the ~~aesthetic~~-laminate 3 is mounted with the compatible resin layer 7 adjacent the surface of the mold form 13 to obtain a smooth surface on the ~~polyarylate polyester layer 5~~layer. Clamp frames may be activated for mechanically holding the sheet in place. A suitable heat shield, such as a aluminum foil, may be utilized for avoiding heating the surface at selected locations such as other than a sink portion. The sheet is then exposed to the thermo-forming ovens. Top and bottom heaters may be used. The ~~film~~-laminate 3 is heated and moved to the mold. The ~~film~~-laminate 3 is drawn into the mold during the forming operation. To obtain a good surface finish, the openings for drawing the vacuum are ~~preferable~~-preferably spaced away from an area of the part requiring an optimized surface finish. The vacuum openings may be conveniently located around the periphery of the mold form so that the esthetic areas of the ~~laminate~~-laminate 3 are in contact with a smooth mold surface. Areas of the part adjacent vacuum openings, which may have some surface flaws or imperfections, may be trimmed by a laser trimmer to obtain a final part free of surface imperfections. It is contemplated that porous metal molds ~~such as molds~~ may also be used. According to an embodiment, the laminate 3, ~~in the form of a film~~ is preferably placed over a concave mold and heated, such as by an infra-red heater 11. Vacuum is applied to draw the laminate 3 into place against the mold form 13. The process may be modified combining a positive air pressure on the top of the laminate with vacuum from the underside to increase the molding force.

Please amend Page 5, Line 19 to Page 6 Line 12, as follows;

Referring to FIG. 4, ~~reinforced resin material 14, which~~ 14, which includes reinforcing and compatible resin, is compression molded to the thermoformed laminate 3 to form the final article in the desired shape. The reinforced resin material 14 includes a resin compatible with the adjacent ~~thermoplastic-compatible resin layer 7~~ and selected to form an adherent bond therewith. A final composite comprising the thermoformed laminate ~~3 resin~~ and the reinforced resin material 14 has the desired final shape with an outer layer of the arylate polyester polymer for weather resistance and a color corresponding to colorant in the ~~compatible thermoplastic~~ compatible resin layer 7. In the final article, an adherent bond is formed between the ~~thermoplastic-compatible resin layer 7 layer~~ and the arylate polyester layer 5 layer on one side, and the reinforcing resin material 14 on the other side. In addition to compatibility, the reinforcing resin material 14 is selected impart a desirable stiffness to the final article. The compatible resin included in the reinforcing resin material 14 is as hereinbefore described with respect to the compatible thermoplastic compatible resin layer 7. According to an embodiment, the ~~reinforceding resin material 14~~ comprises fibers. Typical fibers include glass, carbon, ceramic, and resin materials. ~~Preferable~~ Preferably the fibers utilized are from 0.25 to 1.5 inch, ~~preferable~~ preferably in the range of about 0.5 to about 0.75 inch and are randomly oriented in a matrix of compatible resin. It is contemplated that longer fibers may be utilized provided such longer fibers do not compromise the desirable aesthetic surface finish. It is also contemplated that discontinuous or continuous fibers may be utilized. Discontinuous or discrete fibers may be randomly or orderly oriented. Continuous fibers would typically be arranged in an oriented orderly manner. The reinforced resin material 14 may comprise a 15-55% glass fiber mat and 45-85% polymer resin. The use of glass fiber is preferable. Preferably glass or other fibers have a sizing which is compatible with the ~~matrix or~~ compatible resin. According to an embodiment, a substantially completely densified mat comprises 30 percent by weight glass fiber having a nominal diameter of about 16 microns and chopped to a length of about 0.5 inch with the remaining portion by weight being polycarbonate resin.

Please amend Page 6, line 27 to Page 7, line 16, as follows;

Known techniques may be used for the production of ~~resin-containing reinforcing~~ reinforced resin material 14. One process used to produce a densified mat of fibers, ~~deposits~~ ~~deposits~~ discrete fibers ~~which~~ onto and between layers of thermoplastic films or sheet. The resulting layered material is passed through the a pair of opposing hot rollers to melt the thermoplastic resin, compress, and densify the material into a fiber laminated mat. Such mats of material are available from Azdel Inc. as GMAT. For ~~GMAT~~ GMAT mat, which is continuous, a festooner is used to raster the mat in a box, alternately, the mat can also be wound on rolls. Random continuous mats and random continuous and unidirectional mats may be produced with this technique. According to another technique, a web of fibers may be produced according to a technique known in the art as Wiggins Teape process. Sheets of this type, comprising a reinforced resin sheet are available from Azdel, Inc. Other process may use an air laid process for laying the web and then needle punches it to form a mat. The air process may be utilized to produce a mat of random discrete fibers and thermoplastic powder. To produce a mat according to the Wiggins Teape process, the materials including other additive are metered and dispersed into the mixing tank fitted with an impeller. Glass fibers and thermoplastic resin binder are dispersed. The mixture of glass and thermoplastics binder is pumped to a head-box via a distribution manifold. The head box is located above a wire section of a machine of the type utilized for papermaking. The dispersed mixture passes through a moving wire screen using a vacuum, continuously producing a uniform, fibrous wet web. The wet web is passed through a dryer to reduce moisture content. The web is heated to melt the thermoplastic resin binder and the mat is passed through the gap in an opposing pair of rollers to form the mat. FIG. 4 shows a ~~glass-mat~~ reinforced resin material 14 ~~which is~~ positioned in a compression mold ~~49~~ 12. For enhanced structural strength mats are preferable densified. The mats utilized preferable have a high strength-to-weight ratio, high impact properties, good chemical resistance, and may be economically produced.

Please amend Page 7, line 27 to Page 8, line 18, as follows;

~~FIG. 3~~ FIG. 6 shows ~~an extruder at~~ 15. The extruder 15 has a housing 17 with a central barrel shape opening 19 with a helical screw 21 mounted for rotation about an axis. At one end of the opening, a hopper (not shown) is utilized for feeding material to be extruded into the rear portion of the screw 21. Helical threads mounted on the screw 21 are positioned for moving material from the rear portion of the screw to a forward portion through the opening 19. As the material or feedstock is conveyed along the screw 21, frictional forces caused by rotation of the screw 21 heats it. It is also contemplated that an external heating source such as an electrical resistant heater may be provided to heat the extruder 15, which in turn heats the feedstock. The housing 17 or the screw 21 ~~is~~ are parts of the extruder, which may heat. At the forward end of the housing 17 and spaced from the forward end of the screw 21, a ~~gate or~~ breaker plate 23 is mounted transverse to the flow of feedstock. The ~~gate-breaker plate~~ 23, ~~which~~ includes a plurality of openings 43 for the passage of feedstock, acts to create a backpressure, which contributes to the mixing and heating of the feedstock and also serves to filter impurities from the feedstock.

A die body 25 is mounted on the forward end of the housing 17. The mounting is conventionally made by bolting or clamping a flange on the die body 25 to a flange on the housing 17. As illustrated in FIG. 5, the die body 25 includes a tapered central and axially aligned opening which throttles the feedstock. At the die outlet, a die plate 27, has an opening with the desired cross sectional shape of the profile to be extruded. As illustrated in ~~Fig. 1~~ Fig. 6, the extrudate 29 in tubular form is deposited on the lower section 35 of the compression mold 12. According one embodiment, a pair of extruders is utilized with pellets of the compatible resin being softened in the first extruder with the extrudate from the first ~~extruded extruder~~ being fed to a second extruder for the addition of fibers.

Please amend Page 8, Line 19 – Line 28, as follows;

The compression molding of the thermoformed laminate 3 to the reinforced resin material 14 (illustrated in Fig. 4), or to the extrudate 29 (illustrated in Fig. 6), is carried out to form a structural bond between the laminate and the reinforced-resin material. Preferably, ~~the bond between the laminate is not an adhering attached as would be formed with adhesive but is a bond~~ is formed with the molecules of the thermoplastic compatible resin layer 7 ~~layer~~ co-mingled with the molecules of the reinforced resin material 14 such as by diffusion to form an interface and an integral thermoplastic structure. The thermoformed ~~laminate~~ laminate 3 is trimmed into at least the rough shape of the final article. The trimmed shape is then registered ~~with~~ with, or placed ~~into~~ into, the upper cavity of the compression tool with the aesthetic ~~side~~ side, or arylate resin side, ~~of the film against or in proximity to the upper cavity the tool surface.~~

Please amend Page 8, Lines 29, to Page 9, Line 32

The reinforced resin material 14 is heated to a softening temperature, typically, from about 500 to about 700°F. The resin in heated form is placed adjacent the bottom surface of the compression mold 12. If a balanced structure is desired, i.e. both top and bottom surfaces of the final part having a thermoplastic layer, an additional thermoplastic compatible resin layer 7 ~~layer 8~~ may be placed adjacent the bottom mold surface. The purpose of the balanced structure is to obtain a layer opposite the aesthetic side that matches the coefficients of thermal expansion of the top layer. The balancing layer may be of a compatible resin. Placing the ~~arylate~~ laminate 3 in the upper tool cavity permits enhanced temperature control of the laminate 3 since it is remote from the hot reinforced resin material 14 ~~at 29 in FIG. 4 or FIG. 6~~. Heat from ~~the fiber~~ reinforced material 14 may be utilized to heat and soften the ~~layer of compatible resin~~ compatible resin layer 7. The mold is closed to the point where resin flows from the ~~compressed mat~~ reinforced resin material 14 ~~or the deposited reinforcing resin, as the case may be,~~ to form a molecular bond with the compatible resin layer 7 in the ~~laminate~~ laminate 3. ~~Desirable~~ Desirably, the reinforced resin material 14 ~~was~~ heated to the softening point and the molding process is halted before the arylate ~~resin~~ polyester layer 5

layer becomes too viscous. Temperatures of the top section 45 of the mold typically are desirable from about 100 to about 270 degrees F. Such temperatures may be maintained by cooling. It is desirable that the Class A surface be retained to minimize glass read through and other surface imperfections. Preferably the interface includes compatible resin from both the ~~laminates~~ laminates 3 and the reinforced resin material 14. The mold is opened and the structural part is removed. Molds are typically made from a metal having high thermal conductivity such as aluminum.

After ~~the laminate~~ laminates 3 is formed, and placed in or registered with the upper mold cavity as shown in FIG. 3 ~~FIG. 6~~, the ~~fibrous resin containing compatible resin extrudate~~ 29 is placed between the mold halves. The ~~fibrous resin extrudate~~ 29 is or has been previously heated to its softening temperature. The laminate 3 containing arylate resin, as shown in FIG. 6, is registered in the top half of the compression mold at or below its softening temperature. The mold cores 35 and 45 are then closed to ~~compression~~ compress the laminate 3 ~~containing arylate~~ against the ~~reinforcing resin material~~ extrudate 29. The heat from ~~reinforced resin~~ the extrudate 29 flows towards ~~arylate~~ laminate 3 and causes exterior portion of the laminate 3 containing compatible resin layer 7 to form a molecular bond with the molten sheet of ~~fiber containing material~~ extrudate 29. The interface formed with laminate 3 forms a resulting integral structural bond at the junction between the laminate 3 and the ~~reinforcing resin extrudate~~ 29. A strong bond bonds the arylate laminate 3 to the ~~reinforcing material~~ extrudate 29.



Please amend Page 10, Lines 1 – 10, as follows;

Some of preferred features of a compression mold 12 having a top half 45 and bottom half 35 are illustrated in FIG. 7. Registry between the top and bottom mold sections, 45 and 47 and 35, are shown at 51 where mating surfaces provide guidance and alignment during opening and closure of the compression mold ~~35~~12. The laminate 3 is registered in the part cavity 55, which includes a shear edge 53 that aids in the retention of material in the part cavity during compression. Temperature openings 57 are utilized to cool or maintain the top section at a proper temperature so that the arylate polyester layer 5 retains a Class A finish. Oil typically is used as a coolant. It is desirable to independently control the temperature of the top and bottom mold sections. An ejector is also shown for ejecting the completed part from the mold.

Please amend Page 12, Lines 8 – 11, as follows;

Preferable the compatible resin layer 7 comprises polycarbonate in an amount to enhance the adherence of the ~~thermoplastic-compatible resin layer-layer 7~~ to both the arylate polyester ~~outer-layer-layer 5~~ and to the fibrous resin layer. In another embodiment, the ~~substrate-compatible resin layer-layer 7~~ is a polycarbonate. By the term polycarbonate is meant carbonate polymers possessing recurring structural units of the formula:

Please amend Page 13, Line 8, as follows;

It is contemplated that the ~~substrate-compatible resin layer-layer 7~~ may include polyester resins such as a thermoplastic polyester. Examples of thermoplastic polyester include but not limited to poly(alkylene dicarboxylates), poly(ethylene terephthalate) (hereinafter sometimes designated "PET"), poly(1,4-butylene terephthalate) (hereinafter sometimes designated "PBT"), poly(trimethylene terephthalate) (hereinafter sometimes designated "PTT"), poly(ethylene naphthalate) (hereinafter sometimes designated "PEN"), poly(butylene naphthalate) (hereinafter sometimes designated "PBN"), poly(cyclohexanedimethanol terephthalate), poly(cyclohexanedimethanol-co-ethylene terephthalate) (hereinafter sometimes designated "PETA"), and poly(1,4-cyclohexanedimethyl-1,4-cyclohexanedicarboxylate) (hereinafter sometimes designated "PCCD"), poly(alkylene arenedioates), and polyesters available from renewable agricultural or other resources, such as vegetable or animal material, biomass, i.e., formed of polylactic acid.

Please amend Page 13, Lines 20 to Page 14, Line 4, as follows;

In one embodiment, the ~~substrate-compatible resin layer-layer 7~~ comprises polycarbonate resin (as a color and adhesive layer) having compatibility to both the arylate ~~polyester layer-layer 5~~ and to the fibrous resin layer for enhancing adherence between the layers. The thickness of the multilayer article comprising a polycarbonate substrate layer and the arylate layer is chosen to be sufficient to cover minor surface blemishes fibrous material resulting in a durable, high grade, even class "A" finish required for automotive applications.

The compatible resin layer-layer 7, sometimes referred to as a substrate, desirable includes a colorant which enhances a visual effect. Such additives typically known for inclusion in films and sheets, including pigments, decorative material such as metal flakes, dyes, and luminescent compounds. Conventional pigments include metallic oxides such as titanium dioxide, and iron oxide; metal hydroxides; metal flakes such as aluminum flake; chromates such as lead chromate; sulfides; sulfates; carbonates; carbon black; silica; talc; china clay; phthalocyanine blues and greens, organo reds; organo maroons and other organic pigments and dyes.

Please amend Page 14, Lines 25 to Page 15, Line 8, as follows;

In another embodiment, in addition to the conventional pigments and colorants in the art, the ~~substrate-compatible resin layer-layer 7~~ further comprises at least a light fastness compound, a light fastness antioxidant, and a light fastness ozonant. Examples of light fastness compounds include didodecyl-3,3'-thio dipropionate, tris(4-tert-butyl-3-hydroxy-2,6-dimethyl benzyl) isocyanurate, 1,3,5-trimethyl-2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl) benzene, N,N'-.beta.,.beta.'-naphthalene-4-phenylene diamine, or 4,4'-methylene-bis(dibutyl dithio-carbamate), (6) 2,2,4-trimethyl-1,2-hydroquinoline. Examples of light fastness antioxidant include but not limited to: didodecyl-3,3'-thio dipropionate, tris(4-tert-butyl-3-hydroxy-2,6-dimethyl benzyl) isocyanurate, 1,3,5-trimethyl-2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl) benzene, N,N'-.beta.,.beta.'-naphthalene-4-phenylene diamine, 4,4'-methylene-bis(dibutyl dithio-carbamate), 2,2,4-trimethyl-1,2-hydroquinoline. Examples of lightfast antiozonant compounds are N,N'-bis(1,4-dimethyl pentyl)4-phenylene diamine, 2,4,6-tris-(N-1, 4-dimethylpentyl-4-phenylene diamino)-1,3,5-triazine, 6-ethoxy-1,2-dihydro-2,2,4-trimethyl quinoline, bis-(1,2,3,6-tetrahydrobenzaldehyde) pentaerythritol acetal, and the like.

Please amend Page 15, Lines 25- Line 30, as follows;

The arylate polyester ~~polymer layer layer 5~~ may be produced as a separate layer, followed by application to a second layer of the laminate. It can also be produced by simultaneous productions of the layers in a production process. The ~~weatherable coating~~ arylate polyester layer 5 layer may be produced and employed in such methods but not limited to molding, extrusion, co-injection molding, co-extrusion, overmolding, coating, and the placement of the layer onto the surface of a second layer.

Please amend Page 16, Lines 1- Line 6, as follows;

In one embodiment, the arylate polyester ~~layer layer 5~~ is has a thickness of about 5 to about 20 mils, and the compatible resin layer 7 layer about 10 to about 55 mils. In another embodiment, the combined layers of the ~~laminate laminate 3~~ have a thickness of about 15 to about 60 mils. The compression molded layer of reinforced resin material 14 has a thickness from about 50 to about 1000 mils, preferably from about 75 to about 250 mils (1 mil is 1/1000 inch).

Please amend Page 16, Lines 7- Line 13, as follows;

In applications wherein the ~~asethetic laminate laminate 3~~ is in the form of a film ~~for subsequent as a pre-formed substrate~~, the compatible ~~layer layer 7~~, or substrate ~~layer layer~~, helps serve as a reinforcement to facilitate the handling of the ~~weatherable coating~~ arylate polyester layer 5 layer which may have relatively little inherent tensile strength. In other applications, the substrate layer may incorporate color pigments, metal flakes, etc. to provide special color effects to the ~~coating~~ arylate polyester layer 7 layer containing resorcinol arylate polyester chain members, which may be clear / colorless.

Please amend Page 16, Lines 20 to Page 17, Line 3, as follows;

In one example, the compatible resin layer ~~layer~~ is a blend containing about 10 to 50 % PBT and 50 to 90 % a resin comprising of resorcinol arylate units. In another example, a compatible blend of a PET and a resin comprising of resorcinol arylate units, containing about 10 to 50 % PET and 50 to 90 % of a resin comprising resorcinol arylate units. In yet another example, the blend is PETG and a resin comprising resorcinol arylate units, with about 10 to 50 % PETG and 50 to 90 % a resin comprising resorcinol arylate units. In another embodiment, ~~the tie-layer is a~~ compatible blend of a PCT and a resin comprising resorcinol arylate units, with about 10 to 50 % PCT and 50 to 90 % a resin comprising of resorcinol arylate units. In an embodiment of a compatible blend of a PCTA and a resin comprising resorcinol arylate units ~~as a tie-layer~~, the blend contains about 10 to 50 % PCTA and 50 to 90 % a resin comprising of resorcinol arylate units. In one embodiment of a compatible blend of a PCTG and a resin comprising resorcinol arylate units, the blend contains about 10 to 50 % PCTG and 50 to 90 % a resin comprising of resorcinol arylate units.

Please amend Page 17, Line 4 - 12, as follows;

In one embodiment of a ~~compatible layer~~ compatible resin layer 7, containing a blend of materials constituting the substrate layer and the coating layer, ~~the tie-layer is a transparent blend of a poly(1,4-cyclohexanedimethyl-1,4-cyclohexanedicarboxylate) ("PCCD") and polycarbonate. Applicants have found that use of a blend of PCCD and polycarbonate afford a layer with ductility, and increased adhesion between the weatherable-coating-arylate polyester layer 5 layer and a support-compatible resin layer 7 layer of polycarbonate. The blends of PCCD/PC have excellent clarity, physical and mechanical properties. In one embodiment, the blend comprises about 20 to 100 wt. % PCCD and about 80 to 0 wt. % of the polycarbonate.~~

Please amend Page 17, Line 20 - 22, as follows;

~~Figure 1(B) illustrates a three layer structure, with the first layer being the weatherable coating layer 5 comprising resorcinol arylate polyester chain members, being laminated on the surface of a polycarbonate layer 7.~~

Please amend Page 17, Line 23 to Page 18, Line 8, as follows;

The two-layer laminate is prepared as described, ~~in applicant's co-pending application 08CS05828. Within co-extrusion,~~ various techniques are employed. In one embodiment, two or more layers of the multilayer article are extruded from separate extruders through separate sheet dies into contact with one another when hot, and then passed through a single sheet of rollers. In another embodiment, the polymer melts of the materials constituting the ~~coating layer~~ aryl原因 polyester layer 5, the optional tie-layer or layers, and the ~~substrate compatible resin layer or layers~~ layers 7, are brought together and into contact with one another through a co-extrusion adapter/feed block and then through a single or multi-manifold die. The adapter/feed block is constructed such that the melts forming the separate layers are deposited as adherent layers on the melt of the center layer. After co-extrusion, the multilayer length of the melt produced can be formed into desired shapes, solid sheets or multi-wall panels, in an extrusion die connected downstream. The melt is then cooled under controlled conditions in known manner by means of calendaring (solid sheet) or vacuum sizing (multi-wall panel) and subsequently cut into lengths. An annealing oven may be optionally provided after sizing or calendaring for the reduction of stresses.

Please amend Page 18, Line 9 - Line 13, as follows;

In one embodiment, an extruded ~~coating~~ aryl原因 polyester layer 5 layer film comprising resorcinol arylate polyester chain members is thermally laminated onto a roll of tie-layer or layers of films using a laminator having heated bottom and top rolls. In another example, the coating layer is adhesively laminated onto a ~~substrate compatible resin layer 7 layer~~ layer 7 using a tie-layer film.

Please amend Page 18, Line 20 to Page 20, Line 12, as follows;

Example 1. FIG. 1(A) illustrates a cross section of an aesthetic laminate 3 having a clear polyarylate polyester layer 5 bonded to a polycarbonate-colored-compatible resin layer 7 (colored polycarbonate). Laminate 3 is in turn bonded to glass fiber polycarbonate mat material (reinforced resin material 14) by compression molding. ~~As illustrated in FIG. 1(B), the~~ The aesthetic laminate 3 may be present on one or both surfaces of the reinforced resin material 14 ~~glass-reinforced polycarbonate material 14~~. ~~In FIG. 1(B) a second layer of material is shown at reference number 8.~~ The thickness of the top aesthetic layer laminate ~~layer 3~~ is from about 0.025 to about 2.5 mm with the reinforced fibrous material 14 having a thickness of about 1 to about 8 mm. LEXAN® SLX resin, from General Electric Company, GE Plastics, One Plastics Avenue, Pittsfield MA, prepared by laminating a LEXAN® polycarbonate compatible resin layer 7 (having a colorant) ~~to to~~ an arylate polyester layer 5 to form the polyarylate/polycarbonate laminate laminate 3. The polyarylate/polycarbonate ~~laminate-laminate 3~~ is trimmed and thermoformed to the exterior shape of a “skin” of the final part. The polyarylate/polycarbonate laminate laminate 3 in the form of a shaped skin is then trimmed such that is roughly in the shape of the final part. The skin placed into the upper cavity of the compression tool with the aesthetic side or polyarylate polyester layer 5 resin side of the film against the smooth tool surface. A glass fiber containing polycarbonate reinforced resin material 14 mat from Azdel, Inc. is heated in an external oven to between 500 and 700°F and transferred to the compression tool. The reinforced resin material 14 mat comprises about 30 percent by weight glass fibers having a length of about one half inch in a matrix of polycarbonate. The reinforced resin material 14 mat is substantially fully densified and has a mass per unit area of about 0.8 to 1.5 lbs/ft<sup>2</sup>. The heated glass fiber/polycarbonate reinforced resin material 14 mat is placed against the bottom tool surface. If a balanced structure is desired, i.e. both top and bottom surfaces of the final part having aesthetic surface, an additional arylate/polycarbonate laminate 3 laminate may be placed adjacent the bottom mold surface. In this case the glass fiber/polycarbonate reinforced resin material 14 mat may be placed above another polyarylate/polycarbonate

laminate 3 ~~laminate~~ in lower mold cavity. In either case, at least one aesthetic Class A surface is created for the final part. This surface has a clear outer ~~layer of polyarylate resin- arylate polyester layer 5~~ bonded to an aesthetically colored polycarbonate compatible resin layer 7, which is in turn bonded to the reinforced resin material 14 (glass fiber/polycarbonate ~~mat mat~~). Placing the polyarylate/polycarbonate ~~laminate-laminate 3~~ in the upper tool cavity permits separately controlling the temperature of the ~~laminate laminate 3~~ and the hot glass fiber/polycarbonate reinforced resin material 14 ~~mat~~ during closure of the tool and compression molding. The ~~laminate-laminate 3~~ is maintained at about the softening point to minimize glass fiber read through and other surface imperfections. The tool is closed at which time the arylate/polycarbonate ~~laminate laminate 3~~ comes in contact with the preheated the glass fiber/polycarbonate reinforced resin material 14 ~~mat~~. A pressure of about 500 and 5000 psi is applied. The glass fiber/polycarbonate reinforced resin material 14 ~~mat~~ material flows to fill the cavity and is subsequently cooled. The compression mold 12 ~~mold~~ is opened and the structural part is removed. Any masking present is removed for the final part. The measurement device for surface characterization is the BYK Gardner Wavescan machine (detailed in Brister, E. et al. "Zero VOC SOLLX Film for Weatherable, high-gloss, Chemical and Scratch Resistant Performance," proceedings of the 29<sup>th</sup> International Waterborne, high-solids, & powder Coatings February 2002, 261-275.) Wavescan measures reflection of light images in the <1mm to 30 mm length range with lower values corresponding to better surfaces. FIG.8 shows Wavescan benchmarks for Automotive Horizontal panels. Lower Values correspond to better surfaces. The three-circled regimes correspond to three areas of surface appearance of Gloss, Orange Peel, and long-term waviness. The dark orange curve (with the label UPR SMC) is painted SMC and provides a surface quality benchmark for the weatherable films with identified as LEXAN<sup>®</sup>SLX type resin on the graph. Wavescan results of in-mold LEXAN<sup>®</sup>SLX resin over fiberglass polycarbonate reinforced resin material 14 ~~mat~~ is included in FIG. 5 along with LEXAN<sup>®</sup>SLX resin film over other reinforced surfaces. Painted UPR SMC is included as a benchmark. 'LTLP SMC' corresponds to Low pressure, Low Temperature SMC. VALOX<sup>®</sup> 508 resin is a



glass reinforced PC/PBT alloy sold by GE Plastics and ZZLOY is a Glass Mat Thermoplastic GMT) made by AZDEL Inc. The surface quality of LEXAN®SLX/LEXAN® ~~laminates~~ laminates 3 is better than corresponding painted parts.

Please amend Page 20, Line 13 - 26, as follows;

As an even more specific example, a polycarbonate/glass fiber reinforced resin material 14 mat material, 30 percent by weight chopped glass fiber, and 70 percent by weight polycarbonate having a density in g/cm<sup>3</sup> of 1.44 is compression molded at a temperature of 620°F and a pressure of 4000 psi with a LEXAN®SLX/LEXAN® ~~laminates~~ laminates 3 having a ~~polyarylate polyester layer 5 layer~~ adjacent a polycarbonate compatible resin layer 7 layer. The aesthetic ~~laminates~~ laminates 3 has a thickness of about 0.05 inch and the fiber AZDEL GMAT reinforced resin material 14 mat has a thickness of about 0.16 inch. Prior to compression molding, a Teflon strip is inserted between the aesthetic ~~laminates~~ laminates 3 and the glass reinforced resin material 14 mat along one edge. After compression molding, the resulting composite is cut into strips 1 inch by 6 to 8 inches with a the ~~laminates~~ laminates 3 and the glass reinforced resin material 14 mat being separated by the Teflon strip at one of the ends. The adhesion of the aesthetic ~~laminates~~ laminates 3 to the reinforced resin material 14 mat ~~substrate~~ is measured by a 90-degree peel test with a 200 lb and a load cell at a peel rate of 1 inch per minute. To start the peel, the ~~laminates~~ laminates 3 is separated from the reinforced resin material 14 mat ~~substrate~~ in the area of the Teflon strip. The grips from the testing machine are attached to the respective ~~laminates~~ laminates 3 and reinforced resin material 14 mat.

Please amend Page 21, Line 3 - 6, as follows;

Table 1 sets forth the peel strength of LEXAN®SLX/LEXAN® ~~laminate~~ laminate 3 attached to various ~~substrates~~ reinforced resin material 14. The peel strength of the aesthetic laminate and glass AZLOY mat material had a peel strength higher than the SMC or glass filled Valox material.

Please amend Page 21, Line 7 - 15, as follows;

According to one example, the compression molding was done by heating the nominal 30% glass content chopped fiber AZLOY GMT (~4000 GSM) reinforced resin material 14 ~~and heating it to 600 F in an infrared oven and compression molding it with Lexan®SLX laminate 3.~~ The Lexan®SLX laminate 3 sheets used were typically the 30 mil or 50 mil sheets. The ITR surface was positioned next to the chromed Class-A tool surface. The forming was done in a square tool measuring 150 sq. inches with shear edges. The press used was a four post Lawton press with a tonnage of 500 tons. The press was closed at speeds between 45 and 75 inches per minute. The closure height was about 6 inches.